Architecture 100

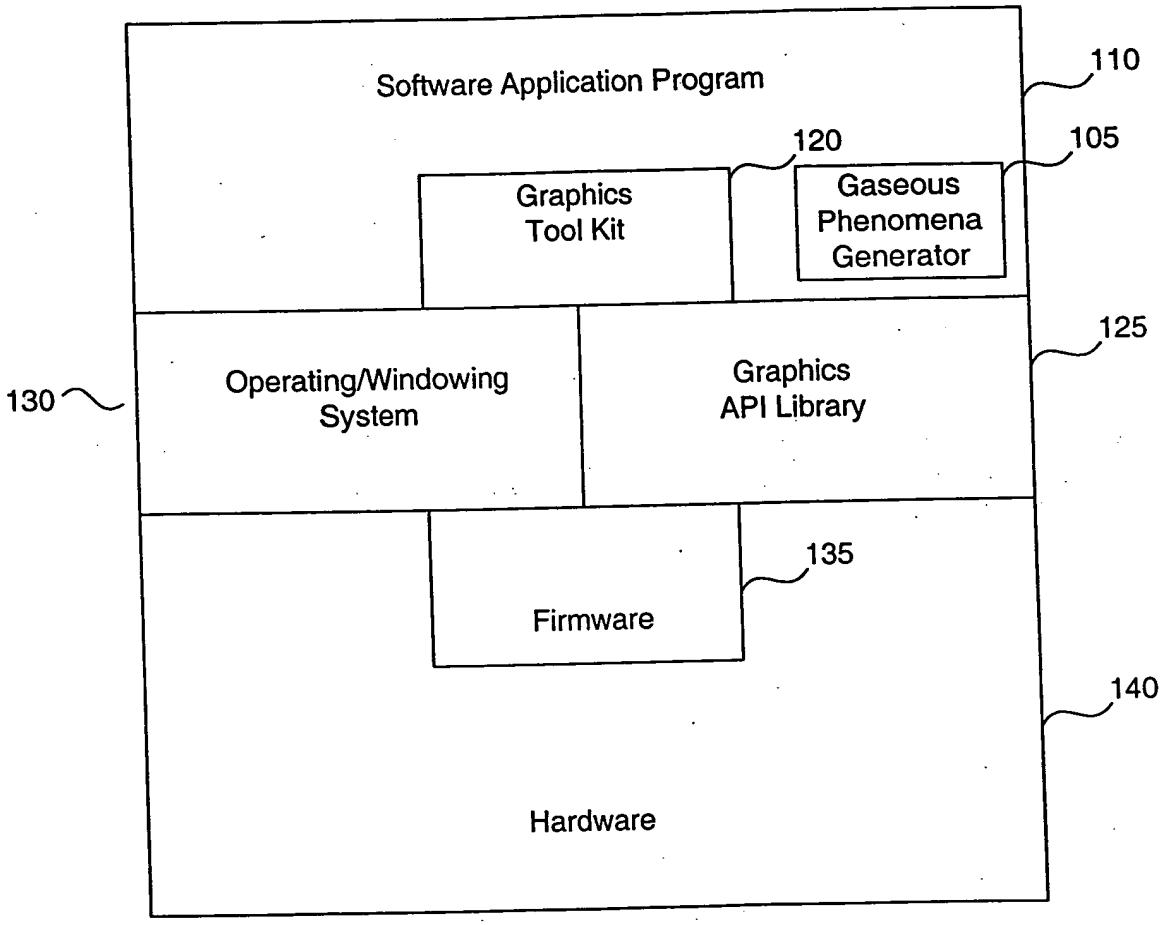


FIG. 1

0003-88.vsd/1

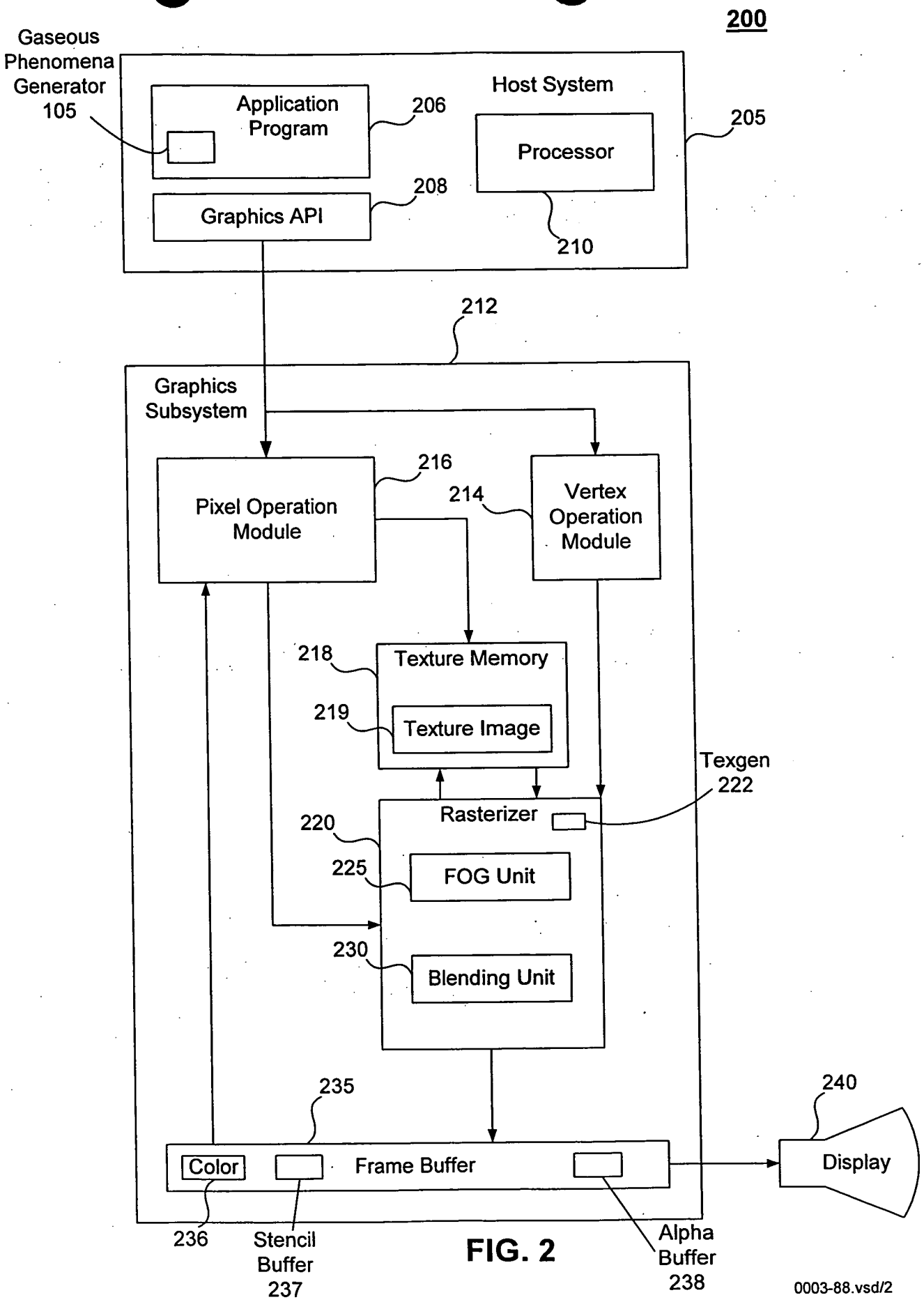

200
Gaseous Phenomena Generator 105
Application Program
206
Host System
205
Processor
208
Graphics API
210
212
Graphics Subsystem
216
Pixel Operation Module
214
Vertex Operation Module
218
Texture Memory
219
Texture Image
Texgen 222
Rasterizer
220
225
FOG Unit
230
Blending Unit
235
240
Color
Frame Buffer
Display
236
Stencil Buffer 237
Alpha Buffer 238
0003-88.vsd/2

FIG. 2

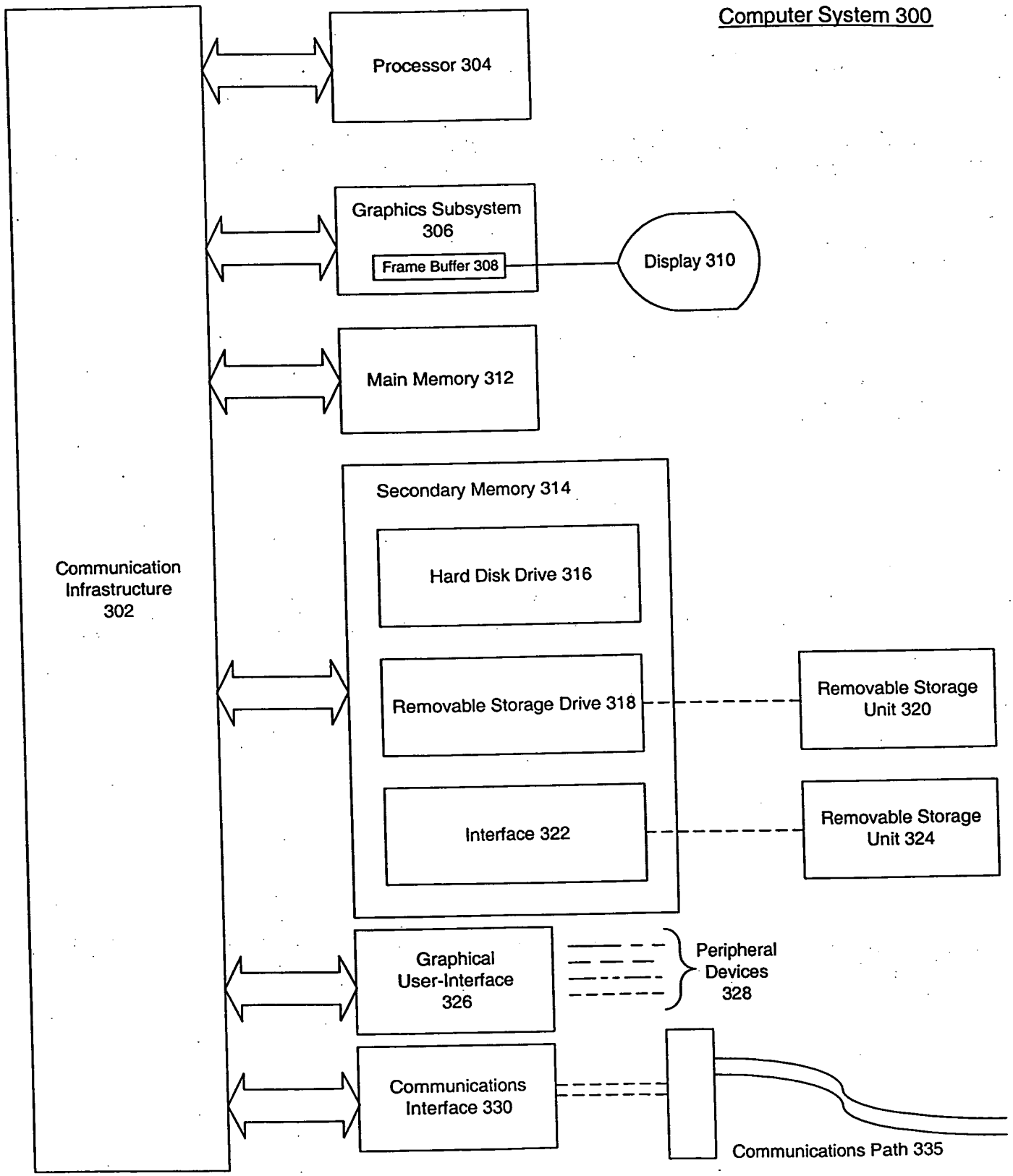


FIG. 3

0003-88.vsd/3

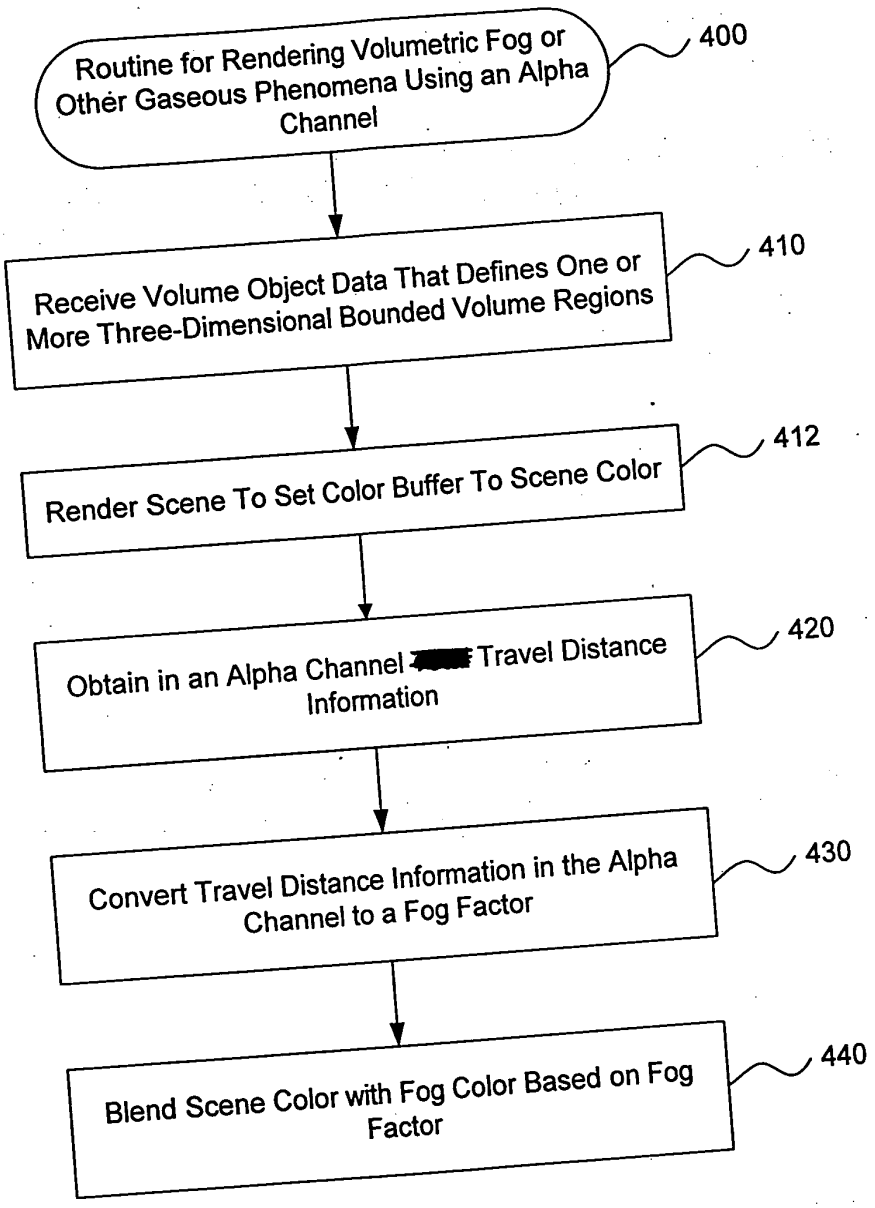


FIG. 4

0003-91.vsd/1

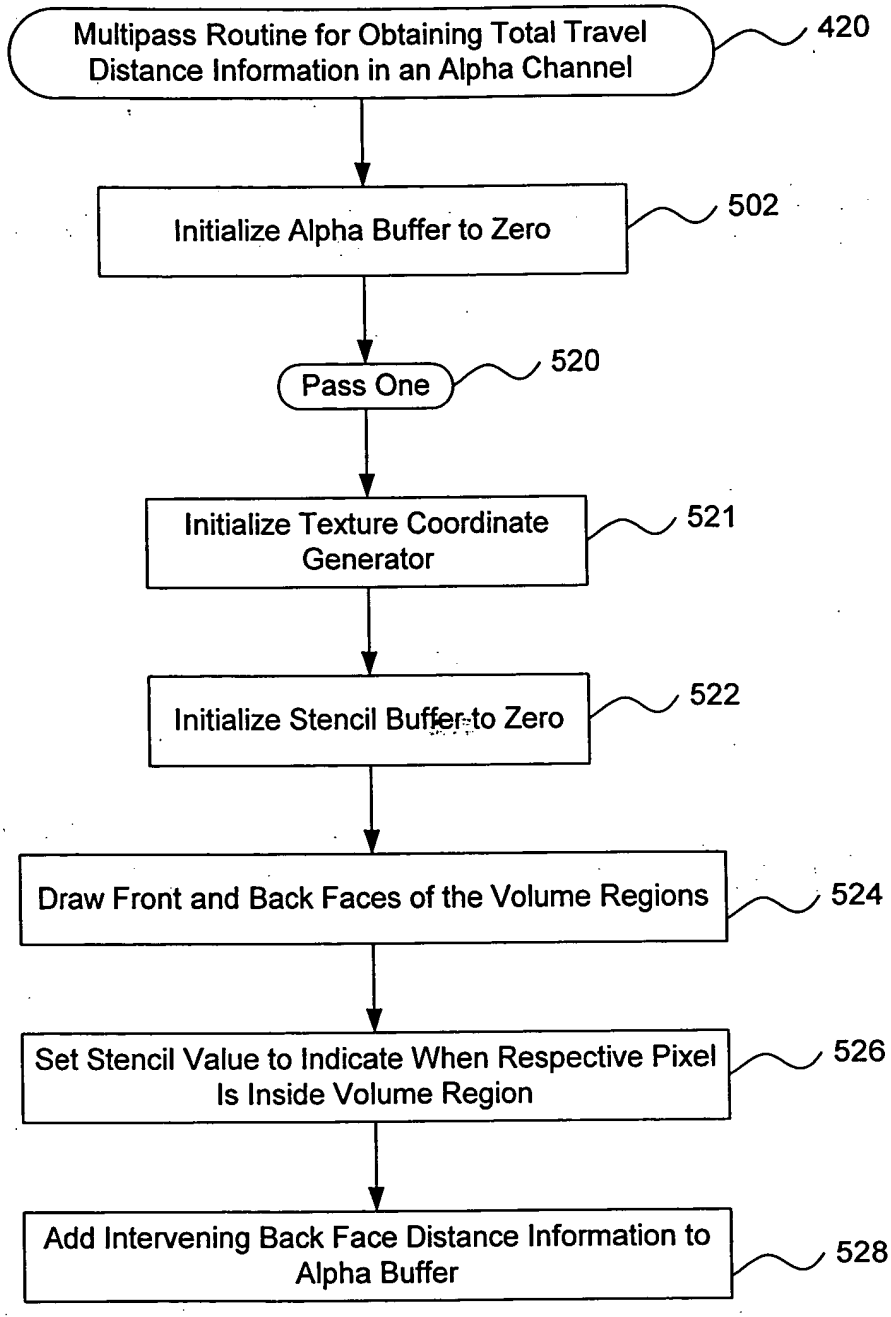


FIG. 5A

0003-91.vsd/2

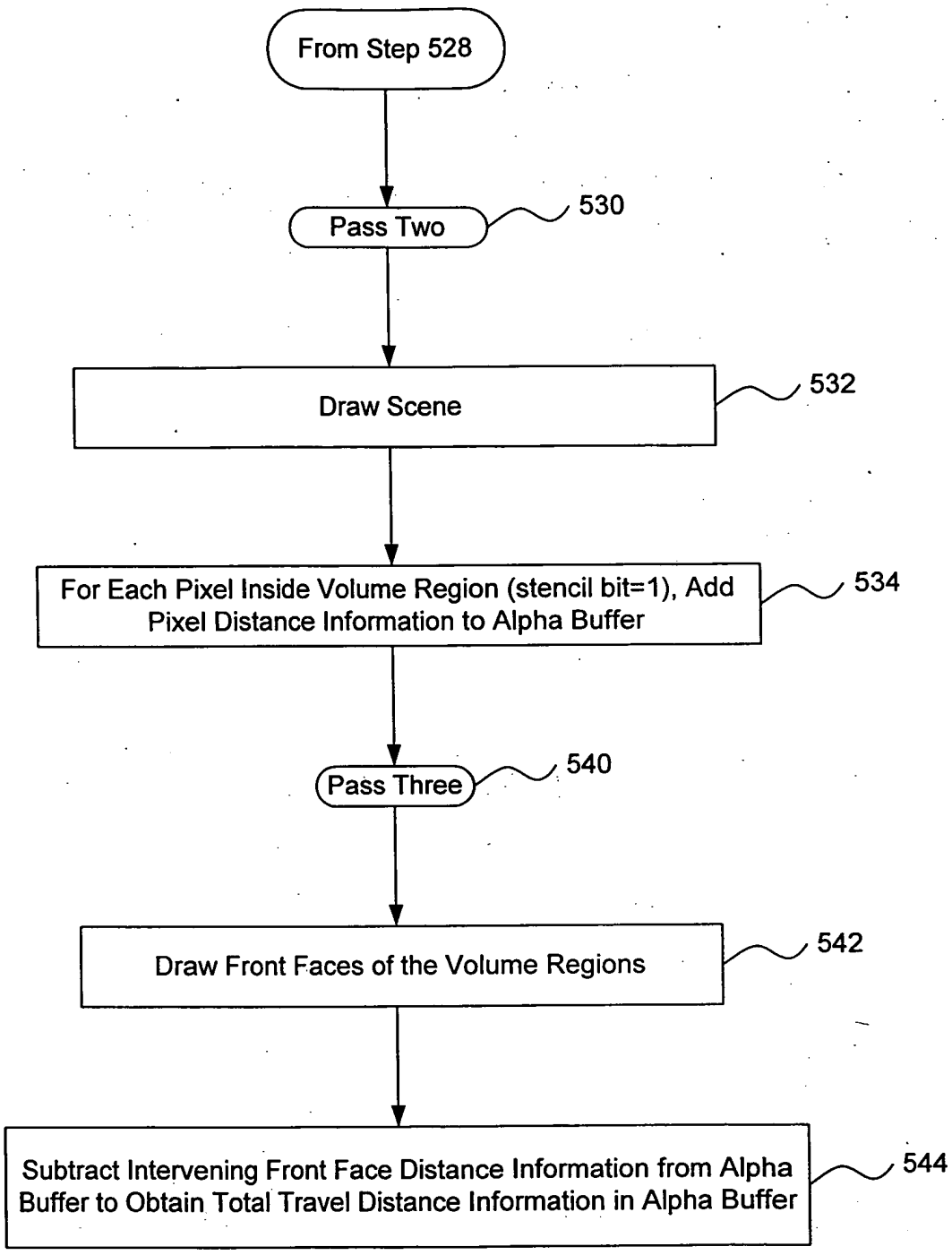


FIG. 5B

0003-91.vsd/3

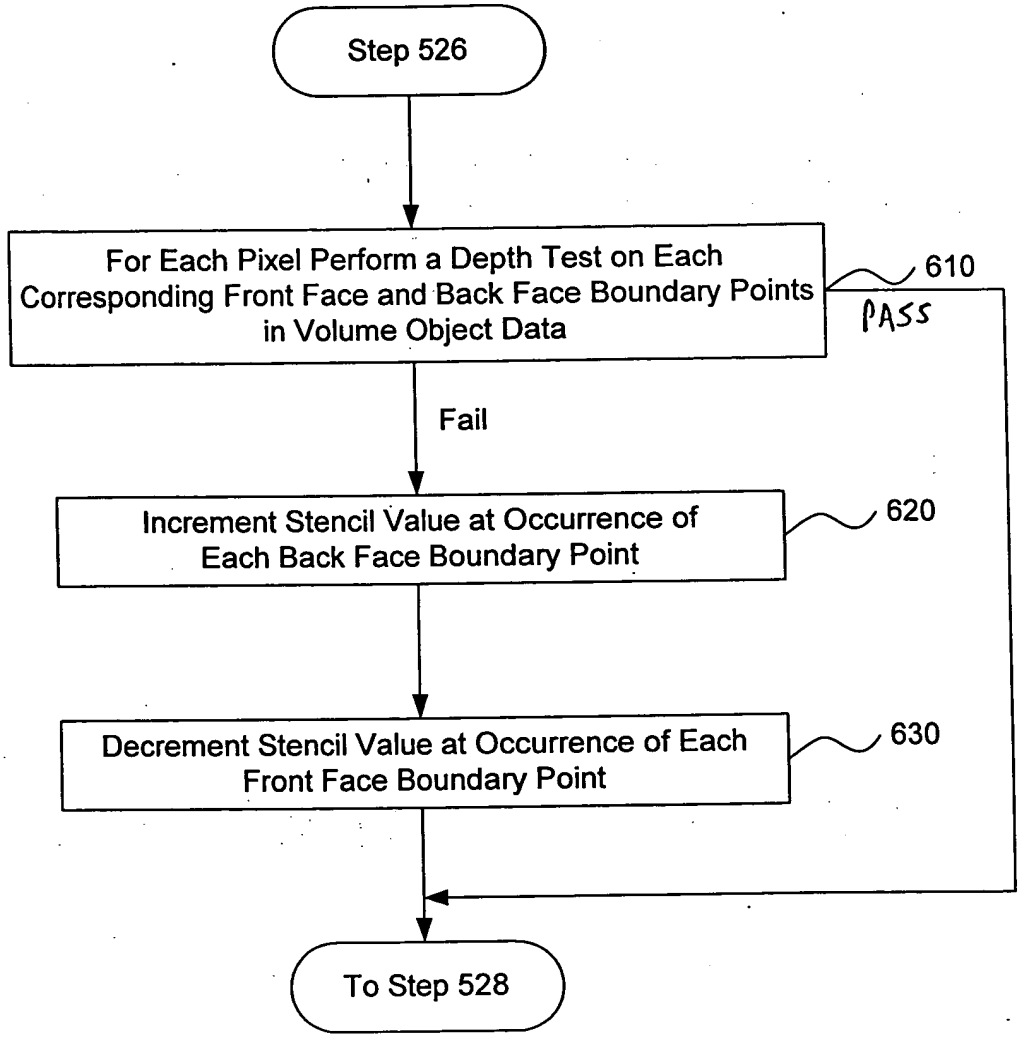


FIG. 6

0003-91.vsd/4

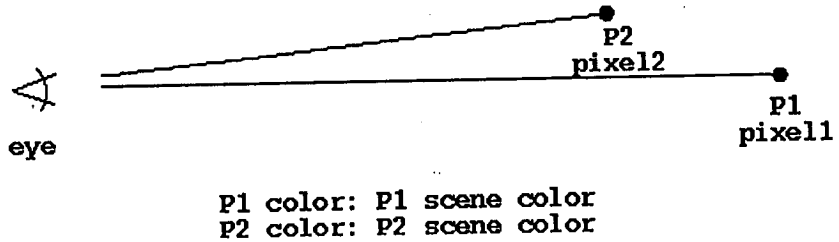
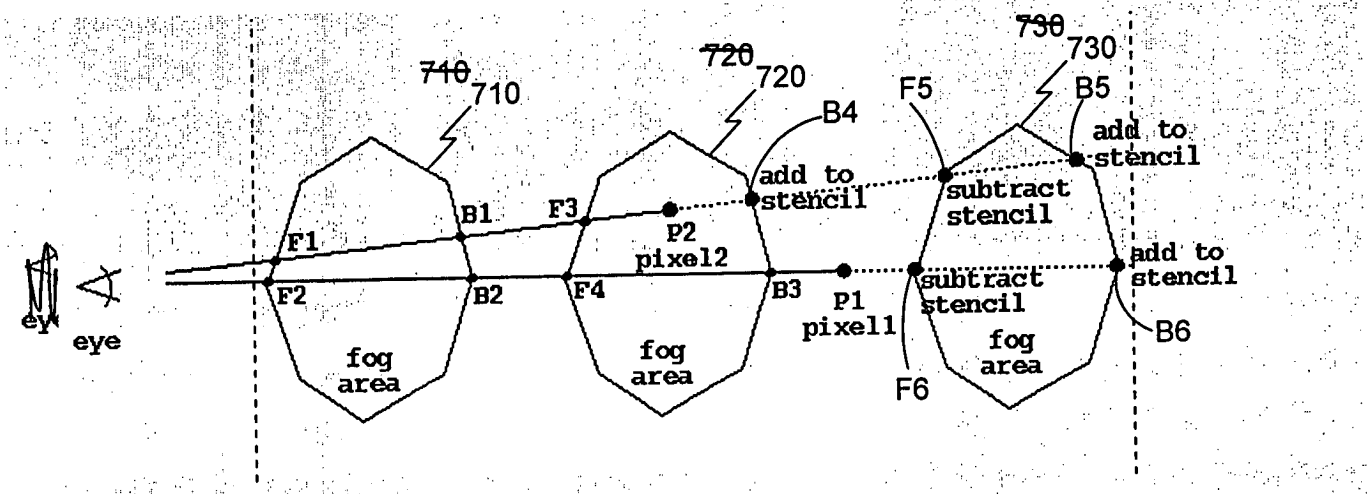


FIG. 7A

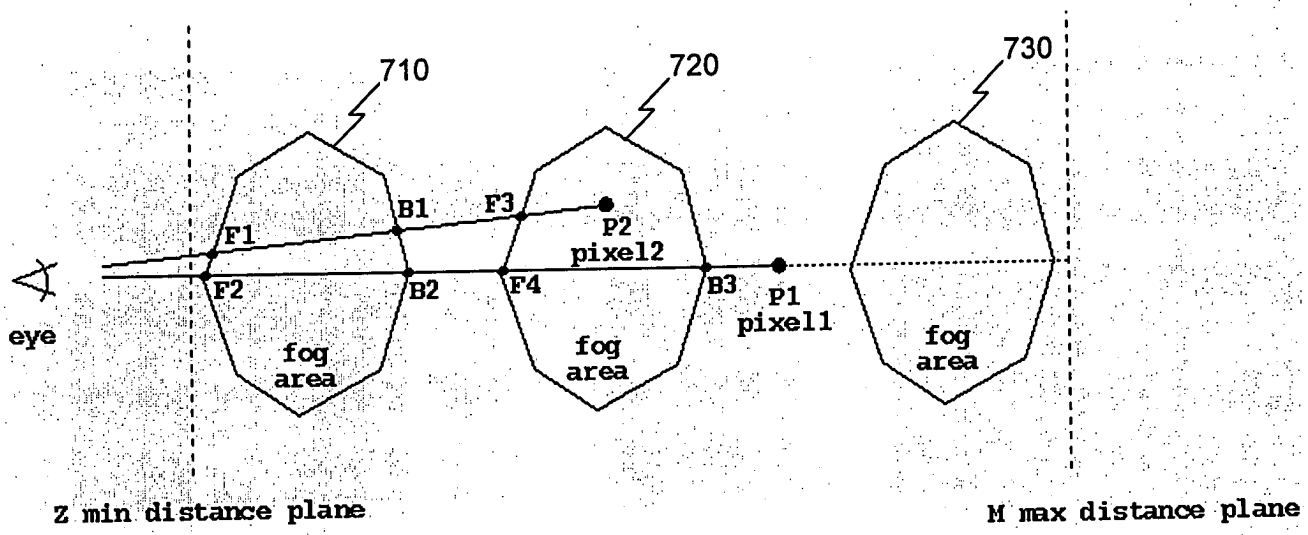


P1 alpha:
(|B2,Z|/|M,Z|)*fogScale
+ (|B3,Z|/|M,Z|)*fogScale
=((|B2,Z| + |B3,Z|)/|M,Z|)*fogScale
P1 stencil: 1-1 = 0

P2 alpha:
((|B1,Z|)/|M,Z|)*fogScale
P2 stencil: 1+1-1 = 1

FIG. 7B

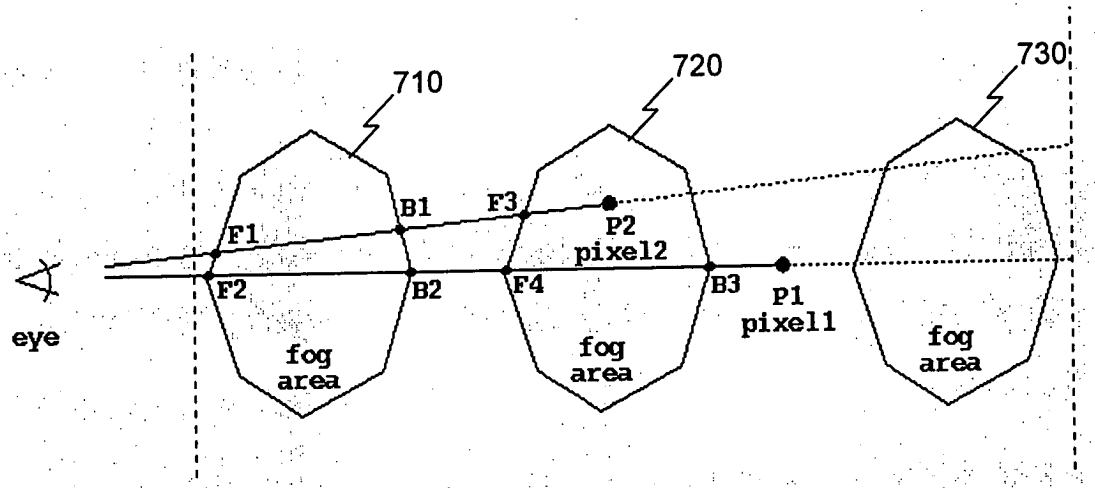
FIG. 7B



P1 alpha: not changed, stencil 0
= ((|B2,Z| + |B3,Z|)/|M,Z|)*fogScale

P2 alpha: changed, due to stencil 1
P2 alpha
+ (|P2,Z|/|M,Z|)*fogScale)
= ((|B1,Z| + |P2,Z|)/|M,Z|)*fogScale

FIG. 7C



P1 alpha:

P1 alpha
- (|F4,Z|/|M,Z|)*fogScale}
- (|F2,Z|/|M,Z|)*fogScale}
= ((|F2,B2| + |F4,B3|)/|M,Z|)*fogScale

P2 alpha:

P2 alpha
- (|F1,Z|/|M,Z|)*fogScale}
- (|F3,Z|/|M,Z|)*fogScale}
= ((|F1,B1| + |F3,P2|)/|M,Z|)*fogScale

FIG. 7D

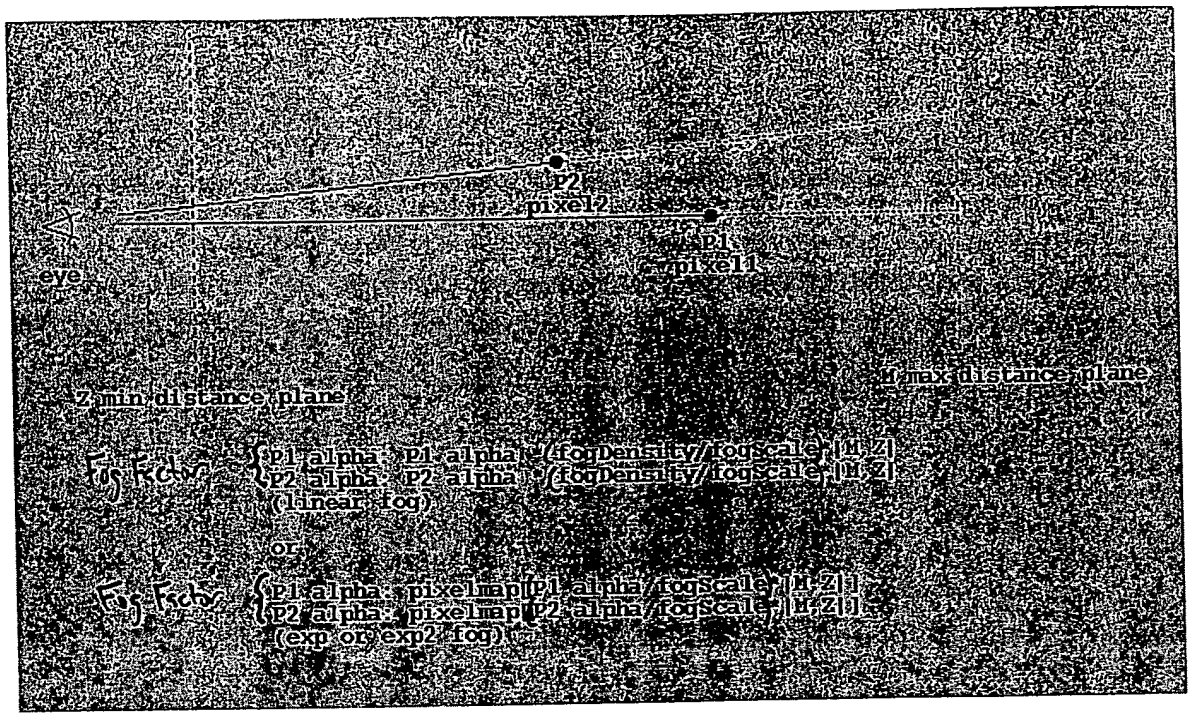
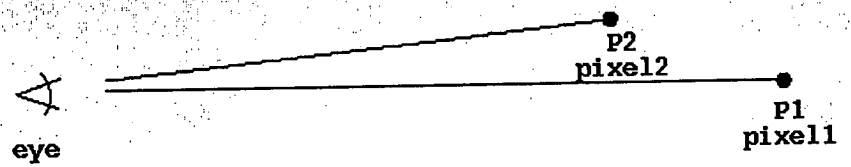


FIG. 7E



P1 color: P1 color * (1 - P1 alpha) + fogColor * P1 alpha
P2 color: P2 color * (1 - P2 alpha) + fogColor * P2 alpha

FIG. 7F